

Algebra II Common Assessment (Semester 1)

Multiple Choice

Identify the choice that best completes the statement or answers the question.

Evaluate the expression for the given value of the variable(s).

1. $\frac{4(3h-6)}{1+h}; h = -2$ $\frac{4(3(-2)-6)}{1-2} = \frac{4(-12)}{-1} = 48$

a. 32 **b. 48** c. -48 d. 30

Solve the equation.

2. $6(x-0.8) - 0.2(5x-4) = 6$ $6x - 4.8 - x + .8 = 6$ $5x - 4 = 6$ $5x = 10$

a. -0.5 b. -2 c. 0.5 **d. 2** $x = 2$

3. $|3x+5| = 1$ $3x+5=1$ or $3x+5=-1$ $3x=-4$ or $3x=-6$

a. $x=2$ or $x=-1\frac{1}{3}$ c. $x=2$ or $x=-2$ $x=-\frac{4}{3}$ or $x=-2$

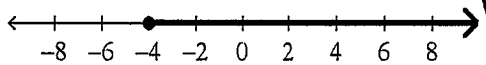
b. $x=2$ or $x=-4$ **d. $x=-1\frac{1}{3}$ or $x=-2$**

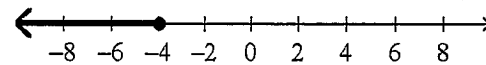
Solve the inequality. Graph the solution set.

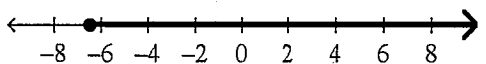
4. $-4k+5 \leq 21$ $-4k \leq 16$ $k \geq -4$

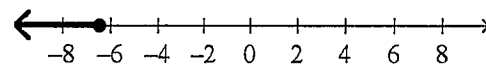
a. $k \geq -4$ c. $k \leq -4$

b. $k \geq -6\frac{1}{2}$ d. $k \leq -6\frac{1}{2}$





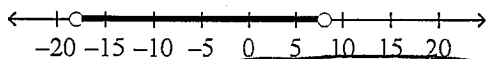




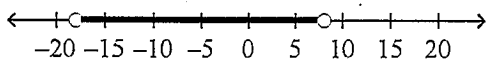
Solve the inequality. Graph the solution.

5. $|2x + 10| < 26$

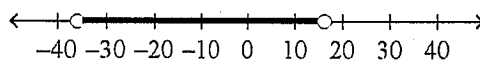
a. $-18 > x > 8$



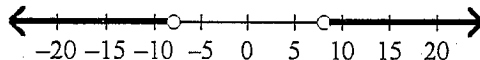
b. $-18 < x < 8$



c. $-36 < x < 16$



d. $x < -8$ or $x > 8$



$$2x + 10 < 26 \text{ AND } 2x + 10 > -26$$

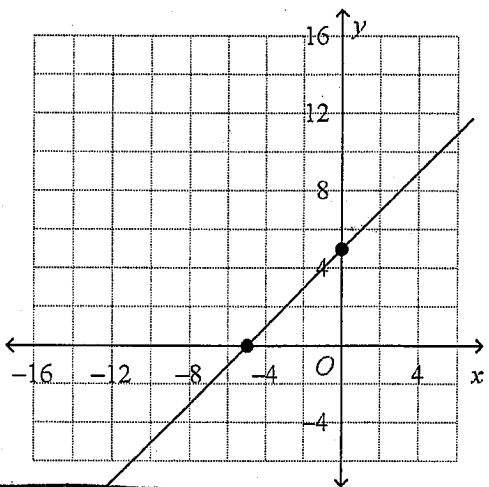
$$2x < 16 \quad \text{AND} \quad 2x > -36$$

$$x < 8 \text{ AND } x > -18$$

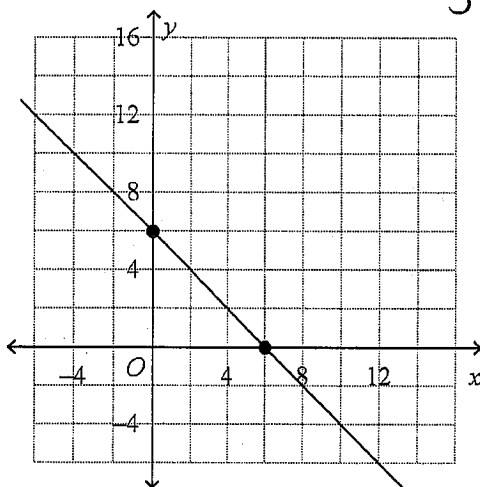
$$-18 < x < 8$$

6. Graph the equation $6x + 6y = 30$ by finding the intercepts.

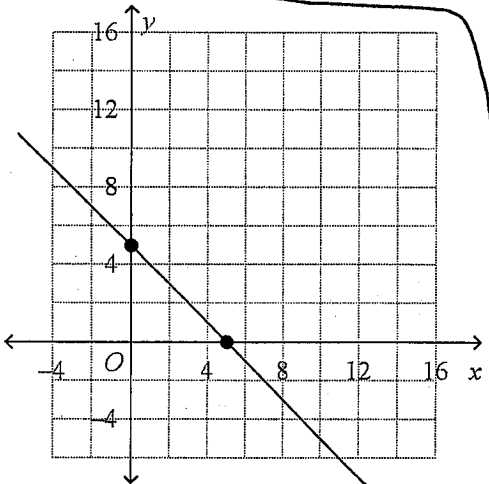
a.



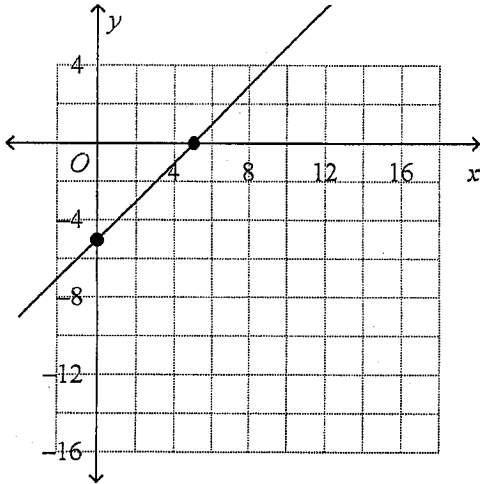
c.



b.



d.



$$6x = 30 \\ x = 5$$

$$6y = 30 \\ y = 5$$

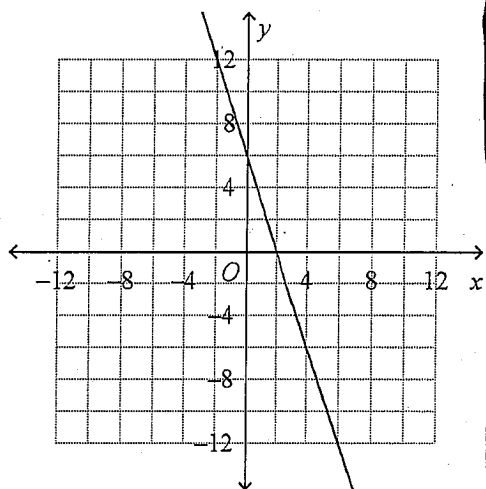
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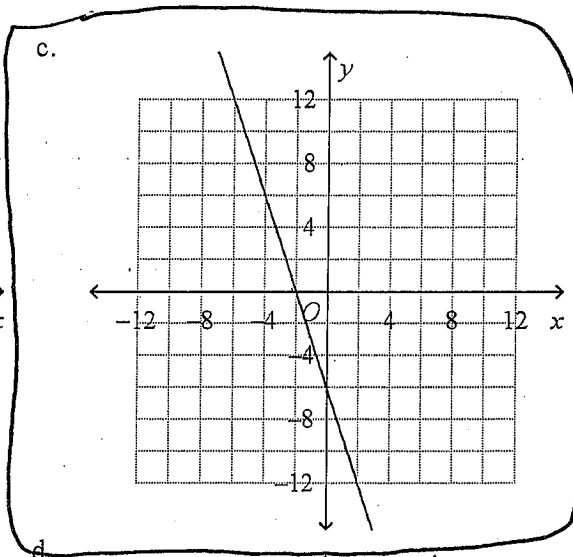
$$-y = 3x + 6 \quad y = -3x - 6$$

7. Graph the equation $-3x - y = 6$.

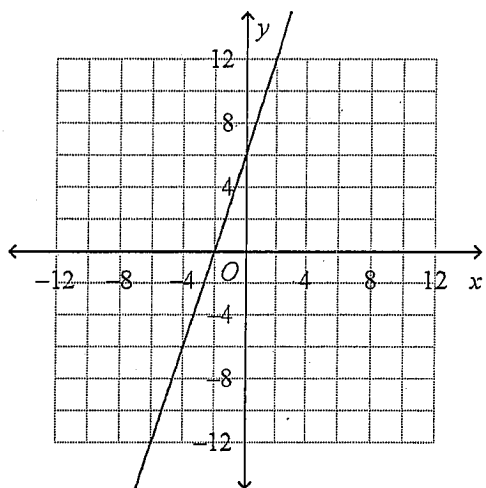
a.



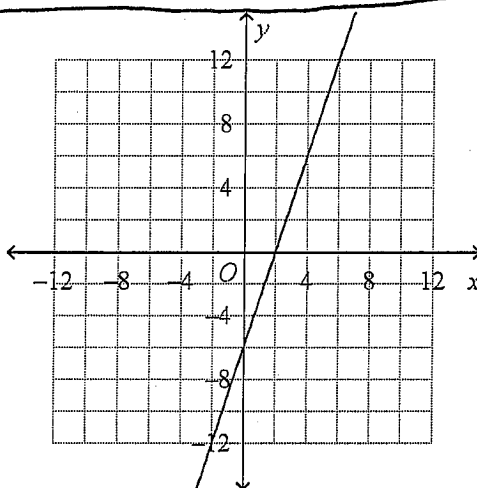
c.



b.



d.



Find the slope of the line through the pair of points.

8. $(6, 12)$ and $(-6, -2)$

a. $-\frac{6}{7}$

b. $-\frac{7}{6}$

c. $\frac{7}{6}$

d. $\frac{6}{7}$

$$\frac{12 + 2}{6 + 6} = \frac{14}{12} = \frac{7}{6}$$

Find the slope of the line.

$$5y = -3x - 15$$

$$y = -\frac{3}{5}x - 3$$

9. $3x + 5y = -15$

a. $-\frac{5}{3}$

b. $\frac{5}{3}$

c. $-\frac{3}{5}$

d. $\frac{3}{5}$

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Find an equation for the line:

$$6 = \frac{4}{5}(2) + b$$

$$6 = \frac{8}{5} + b \quad b = \frac{22}{5}$$

$$y = \frac{4}{5}x + \frac{22}{5}$$

10. through (2, 6) and perpendicular to $y = -\frac{5}{4}x + 1$.

a. $y = \frac{5}{4}x + \frac{7}{2}$

b. $y = -\frac{4}{5}x + \frac{38}{5}$

c. $y = \frac{4}{5}x + \frac{22}{5}$

d. $y = -\frac{5}{4}x + \frac{17}{2}$

11. through (-4, 6) and parallel to $y = -3x + 4$.

a. $y = -3x - 6$

b. $y = 3x + 18$

c. $y = \frac{1}{3}x + \frac{22}{3}$

d. $y = -\frac{1}{3}x + \frac{14}{3}$

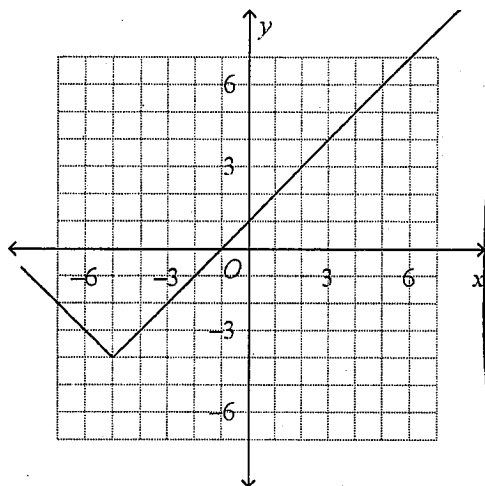
$$6 = -3(-4) + b \quad 6 = 12 + b$$

$$-6 = b$$

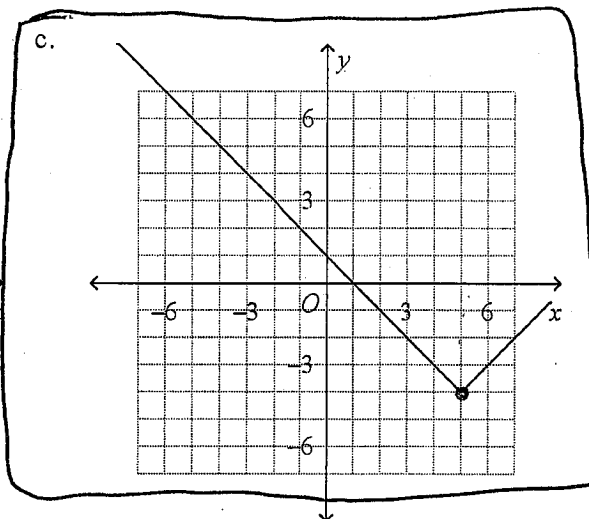
$$y = -3x - 6$$

12. Graph the function $y = |x - 5| - 4$. VERTEX: (5, -4)

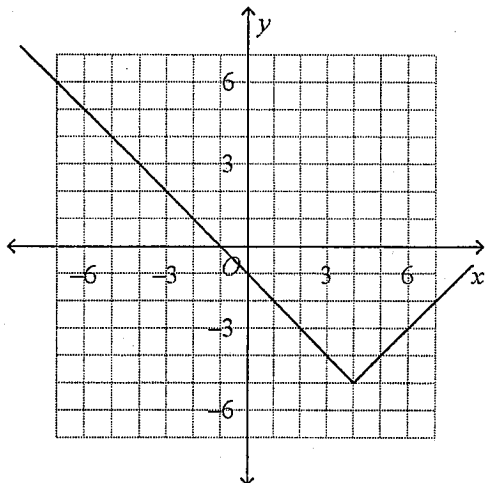
a.



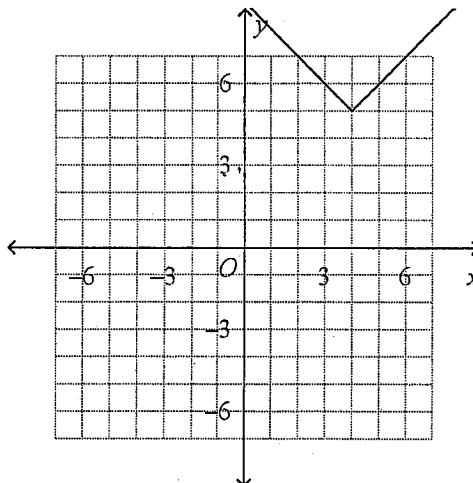
c.



b.



d.



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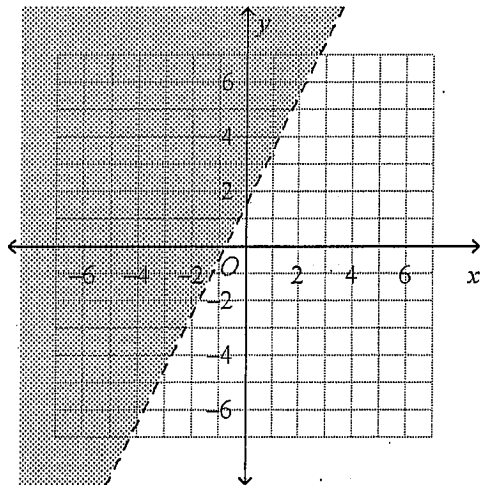
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Graph the inequality.

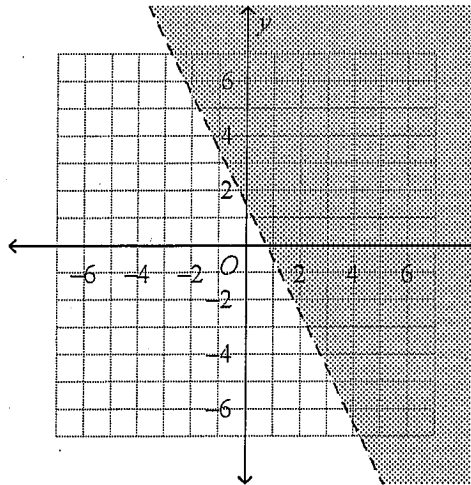
$$-2y < -4x - 3 \quad y > 2x + \frac{3}{2}$$

13. $4x - 2y < -3$

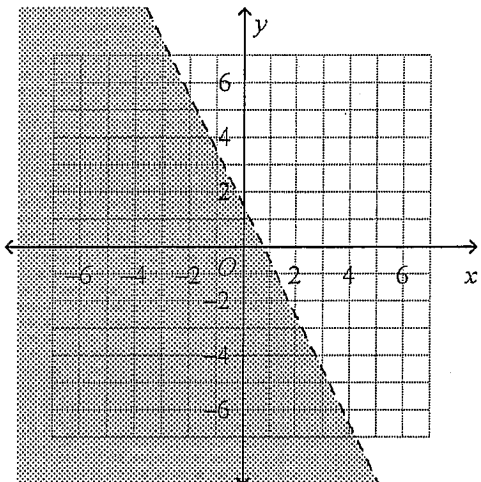
a.



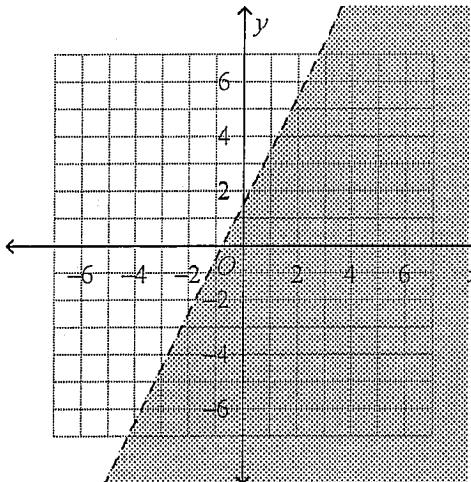
c.



b.



d.



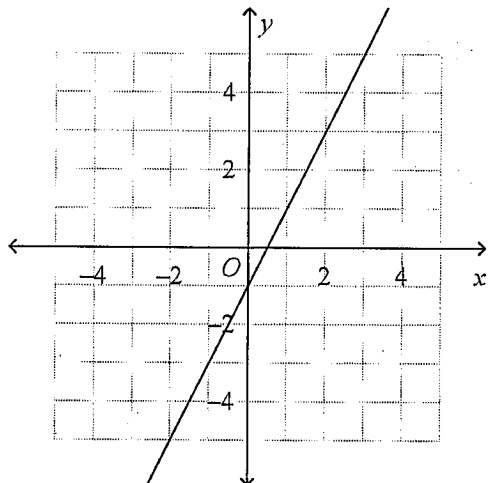
Solve the system by graphing.

14.
$$\begin{cases} -2x + y + 1 = 0 \\ 4x - 2y = -2 \end{cases}$$

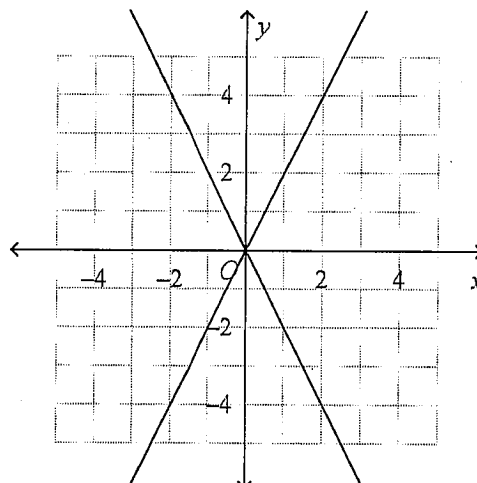
$$y = 2x - 1$$

$$-2y = -4x - 2 \quad y = 2x + 1$$

a.

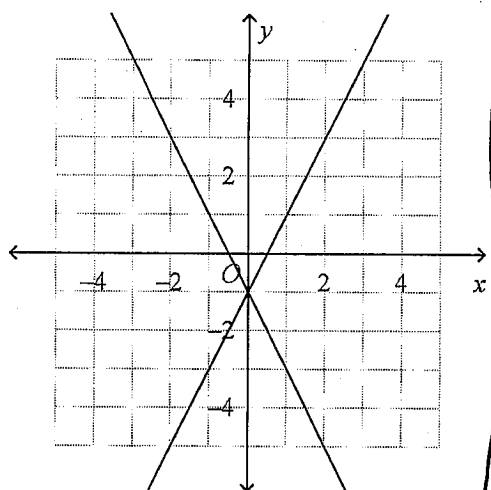


c.



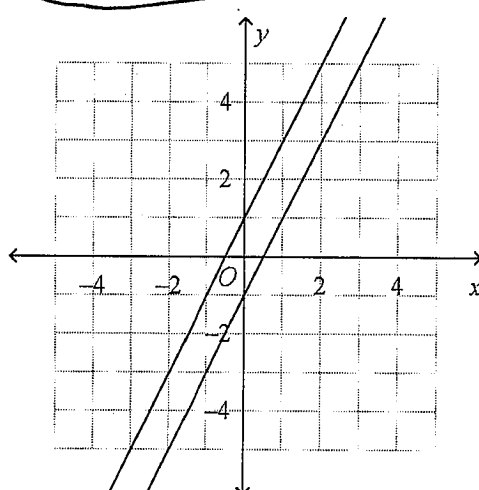
infinite solutions

b.



(0, -1)

d.



no solutions

Use the elimination method to solve the system.

15.
$$\begin{cases} -4x + 4y = -8 \\ x - 4y = -7 \end{cases}$$

$$-3x = -15 \quad x = 5$$

$$5 - 4y = -7 \quad -4y = -12 \quad y = 3$$

a. (3, 5)

b. (5, 3)

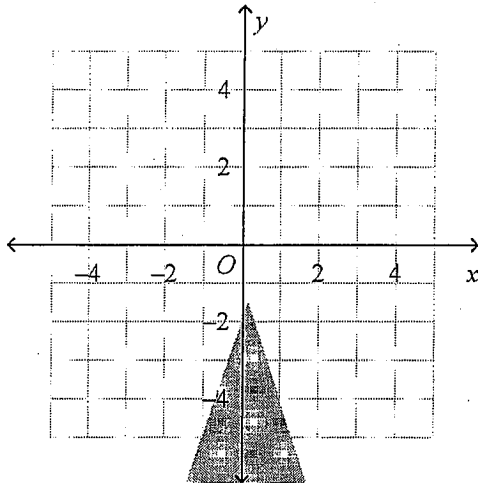
c. (-3, -5)

d. (-5, -3)

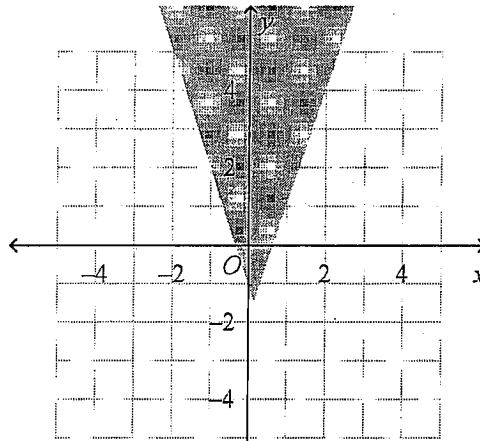
Solve the system of inequalities by graphing.

16.
$$\begin{cases} y \leq -3x - 1 \\ y > 3x - 2 \end{cases}$$

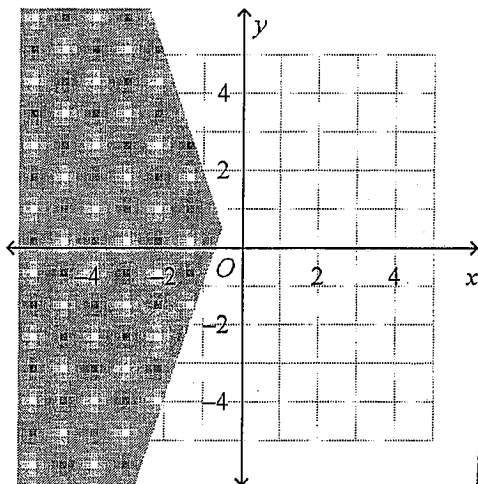
a.



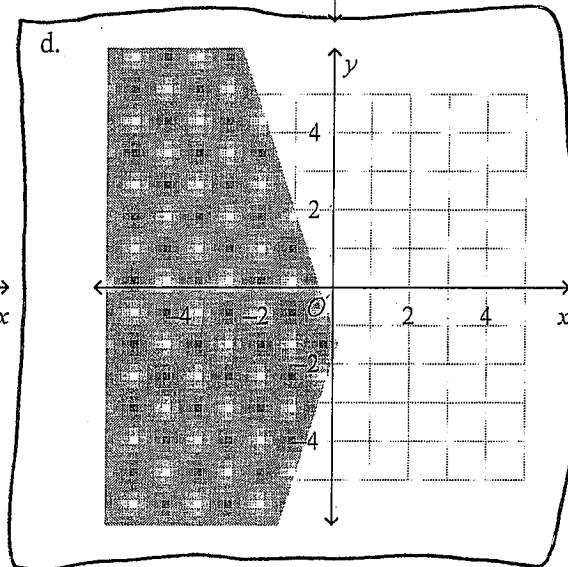
c.



b.



d.

17. Write the expression $(x + 6)(x - 4)$ as a polynomial in standard form.

a. $x^2 - 10x + 2$

b. $x^2 + 10x - 24$

c. $x^2 + 2x - 24$

d. $x^2 + 10x - 10$

$$x^2 - 4x + 6x - 24$$

$$x^2 + 2x - 24$$